

What is claimed is:

1. An input/output (I/O) bridge device, comprising:

a parallel input port ;

a serial output port and a plurality of parallel output ports;

5 a controller coupled to the parallel input port and configured to route signals from the parallel input port to either the serial output port or at least one of the parallel output ports, or both; and

10 serialization logic coupled to the controller and serial output port, the serialization logic receiving as input an I/O signal in a parallel format from the parallel input port and outputting the I/O signal in a serial format.

2. The I/O bridge device according to Claim 1, wherein the I/O bridge device further comprises a plurality of legacy input / output ports adapted to couple to legacy connectors of a computer.

3. The I/O bridge device according to Claim 1 further comprising an LPC interface coupled to the controller and providing thereto routing control signals.

4. The LPC I/O bridge device according to Claim 1, further comprising:

20 a packetizer/depacketizer coupled to the serialization logic and controller.

5. The I/O bridge device according to Claim 4, further comprising a system management (SM) bus controller, and floppy drive controller coupleable to the controller.

25 6. The I/O bridge device according to Claim 5, further comprising configuration and control registers, a watchdog timer, a fan speed control and monitor, and an Advanced Configuration and Power Interface (ACPI) coupled to the LPC controller.

7. The I/O bridge device according to Claim 1, wherein at least the controller and serialization logic reside on a single integrated circuit.

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8. A portable computer including a plurality of I/O ports and a low pin count (LPC) input/output (I/O) bridge device coupled to an I/O bus, and a docking connector coupled to the LPC I/O bridge device, wherein the LPC I/O bridge device comprises:

an LPC controller coupled to the I/O bus and docking connector adapted to detect whether the portable computer is coupled to a docking station via the docking connector and route data transmissions from the I/O bus to the I/O ports, docking connector, or both; and

serialization logic coupled to the LPC controller adapted to serialize the data transmissions routed to the docking connector.

9. The portable computer according to Claim 8, wherein the I/O ports comprise USB, AC-97, serial ports, floppy disk controller (FDC), IEEE 1284, IEEE 1394 or memory expansion interface ports.

10. The portable computer according to Claim 9, wherein the memory expansion interface ports are adapted to interface with flash, multi-media card (MMC), smart media, smart card, or memory stick memory devices.

11. The portable computer according to Claim 8, wherein the portable computer comprises a notebook computer, personal digital assistant (PDA), or wearable computer.

12. The portable computer according to Claim 8, wherein the docking connector comprises less than 200 pins.

13. The portable computer according to Claim 12, wherein the docking connector comprises less than 10 pins.

14. The portable computer according to Claim 8, wherein the LPC I/O bridge device further comprises a packetizer/depacketizer coupled to the serialization logic and LPC controller, and a system management (SM) bus controller, floppy drive controller, configuration and control registers, a watchdog timer, a fan speed control and monitor,  
5 and an Advanced Configuration and Power Interface (ACPI) coupled to the LPC controller.

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an LPC controller coupled to the docking connector adapted to route serial data transmissions; and

10 16. The docking station according to Claim 15, wherein the LPC I/O bridge device includes a single integrated circuit adapted to control the receipt of the serialized data transmissions.

17. The docking station according to Claim 15, wherein the docking station comprises  
15 a port replicator or expansion chassis.

18. The docking station according to Claim 15, wherein the docking connector comprises less than 10 pins.

19. A docking system, comprising:

a portable computer including a plurality of I/O ports and a low pin count (LPC) input/output (I/O) bridge device coupled to an I/O bus, and a docking connector coupled to the LPC I/O bridge device; and

5 a docking station coupleable to the docking connector, wherein the portable computer LPC I/O bridge device comprises:

an LPC controller coupled to the I/O bus and docking connector adapted to detect whether the portable computer is coupled to a docking station via the docking connector and route data transmissions from the I/O bus to the I/O ports, docking connector, or both; and

10 serialization logic coupled to the LPC controller adapted to serialize the data transmissions routed to the docking connector; wherein the docking station is adapted to receive the serialized data transmissions from the LPC I/O bridge device through the portable computer docking connector.

15 20. The docking system according to Claim 19, wherein the docking connector comprises less than 10 pins.

20 21. The docking system according to Claim 19, wherein the I/O ports comprise USB, AC-97, Ethernet, or IEEE 1284, IEEE 1394, or memory expansion interface ports, wherein the portable computer comprises a notebook computer, personal digital assistant (PDA), or wearable computer, and wherein the docking station comprises a port replicator or expansion chassis.

25 22. The docking station according to Claim 21, wherein the memory expansion interface ports are adapted to interface with flash, multi-media card (MMC), smart media, smart card, or memory stick memory devices.

23. The docking system according to Claim 19, wherein the portable computer LPC I/O bridge device comprises a single integrated circuit.

24. The docking system according to Claim 19, wherein the docking station includes a  
5 LPC I/O bridge device adapted to handle the serialized data transmissions from the portable computer.

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25. A method of bridging input/output (I/O) data transmissions between a portable computer and a docking station using a docking connector, the portable computer having a plurality of legacy ports coupled to an I/O bus, a low pin count (LPC) I/O bridge device coupled to the I/O bus, and a docking connector coupled to the LPC I/O bridge device, the method comprising:

detecting whether the portable computer is coupled to the docking station via the docking connector;

receiving information from an LPC interface;

determining from the LPC interface information whether to route data transmissions from the I/O bus to the legacy ports, docking connector, or both;

serializing data transmissions to be routed to the docking connector; and

routing data transmissions as determined.

26. The method according to Claim 25, wherein the portable computer LPC I/O bridge device includes an LPC controller adapted to detect docking and route data transmissions.

27. The method according to Claim 25, wherein the docking connector comprises less than 10 pins.